

REMARKS

This application has been reviewed in light of the Office Action dated March 11, 2005. Claims 3-11, 14-16, and 36-41 are pending in this application. Claims 1, 2, 12, 13, and 17-35 have been canceled, without prejudice or disclaimer of subject matter. Claims 3, 5-11, and 14-16 have been amended to define more clearly what Applicant regards as his invention. Claims 36-41 have been added to provide Applicant with a more complete scope of protection. Claims 3, 14, 16, and 36-41 are in independent form. Favorable reconsideration is requested.

Applicant notes with appreciation the indication that Claims 3, 4, 6, 7, 10, 11, and 14 would be allowable if rewritten so as not to depend from a rejected claim, and with no change in scope. Claim 3 has been rewritten to define more clearly what Applicant regards as his invention, but is believed to retain the allowable subject matter. Accordingly, Claim 3, as well as the claims depending therefrom, are now believed to be in condition for allowance.

Independent Claims 14 and 16 recite features similar in many relevant respects to Claim 3, and therefore are also believed to be in condition for allowance.

The Abstract was objected to for not being limited to a single paragraph. Applicant has corrected the Abstract. Accordingly, withdrawal of the objection to the Abstract is respectfully requested.

Claims 1, 3-12, and 14-16 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention.

First, cancellation of Claims 1 and 12 renders the rejections of those claims moot.

The claims have been carefully reviewed and amended as deemed necessary to ensure that they conform fully to the requirements of Section 112, second paragraph, with special attention to the points raised in paragraph 3 of the Office Action. It is believed that the rejection under Section 112, second paragraph, has been obviated, and its withdrawal is therefore respectfully requested.

Claims 1, 5, 8, 9, 12, 15, and 16 were rejected under 35 U.S.C. § 103(a) as being obvious from U.S. Patent 5,166,895 to Makino.

First, cancellation of Claims 1 and 12 renders the rejections of those claims moot.

Claim 36 is directed to a filter processing apparatus having a plurality of arithmetic units. Each arithmetic unit includes input means, storing means, multiplication means, and addition means. The input means inputs first and second data which have a spatially adjacent positional relationship in a data group including the first and second data. The storing means stores the first data and then outputs third data, the second and third data having a spatially adjacent positional relationship in the data group, obtained by delaying the first data by a predetermined amount. The multiplication means multiplies the first and third data by a predetermined coefficient. The addition means adds a product obtained by the multiplication means to the second data. The filter processing apparatus executes a filter processing for external input data using the plurality of arithmetic units.

Claim 36 is directed to a technique for filter arithmetic

processing using a “lifting scheme”. See, for example, Fig. 12 of the originally filed application.^{1/}

Makino, as understood by Applicant, relates to an input-weighted transversal filter. Makino discusses a technique for FIR (Finite Impulse Response) type filter arithmetic processing. However, the filter arithmetic processing of Claim 36, using a lifting scheme, is different from FIR type filter arithmetic processing.

Accordingly, Claim 36 is believed to be patentable over Makino.

Independent Claims 37 and 38 recite features similar in many relevant respects to those discussed above with respect to Claim 36 and therefore are also believed to be patentable over Makino for at least the reasons discussed above.

Claim 39 is directed to a filter processing apparatus having a plurality of arithmetic units. Each arithmetic unit (e.g. 6621 of Fig. 74)^{2/} includes input means, multiplication means, first addition means, storing means, and second addition means. The input means (e.g. 6601, 6603) inputs first data (e.g. X₈) and second data (e.g. X₉) which have a spatially adjacent positional relationship in a data group including the first and second data. The multiplication means (e.g. 6611) outputs third data obtained by multiplying the first data by a predetermined coefficient (e.g. α). The first addition means (e.g. 6615) outputs fourth data obtained by adding the third data to the second data. The

^{1/}It is of course to be understood that the references to various portions of the present application are by way of illustration and example only, and that the claims are not limited by the details shown in the portions referred to.

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storing means (e.g. 6613) outputs fifth data obtained by delaying the fourth data by a predetermined amount. The second addition means (e.g. 6617) outputs sixth data obtained by adding the third data to the fifth data. The filter processing apparatus executes a filter processing for external input data using the plurality of arithmetic units.

Claim 39 is directed to a technique for filter arithmetic processing using a “lifting scheme”. Makino discusses a technique for FIR (Finite Impulse Response) type filter arithmetic processing. However, the filter arithmetic processing of Claim 39, using a lifting scheme, is different from FIR type filter arithmetic processing.

Accordingly, Claim 39 is believed to be patentable over Makino.

Independent Claims 40 and 41 recite features similar in many relevant respects to those discussed above with respect to Claim 36 and therefore are also believed to be patentable over Makino for at least the reasons discussed above.

A review of the other art of record has failed to reveal anything which, in Applicant’s opinion, would remedy the deficiencies of the art discussed above, as a reference against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration or reconsideration, as the case may be, of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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